

TC-W311

SERVICE MANUAL

*US Model
Canadian Model
E Model
Australian Model*

TC-W311 is the cassette deck of the SEN-311 system.

- TC-W311 is a model designed based on the TC-W301.
The mechanical parts of the TC-W311 differ from those of the TC-W301.
- For additional information not contained in this manual, refer to the TC-W301 Service Manual.

SPECIFICATIONS

Recording system	4-track 2-channel stereo
Frequency response (DOLBY NR OFF)	With TYPE IV cassette (Sony METAL-ES) 30 – 15,000 Hz (± 3 dB) 30 – 13,000 Hz (0 VU recording) With TYPE II cassette (Sony UCX-S) 30 – 13,000 Hz (± 3 dB) With TYPE I cassette (Sony HF-S) 30 – 13,000 Hz (± 3 dB)
Wow and flutter	0.12% WRMS (NAB)
Dimensions	Approx. 430 x 120 x 280 mm (w/h/d) (17 x 4 ³ / ₄ x 11 inches)
Weight	Approx. 3.5 kg (6 lb. 14 oz.) net

Design and specifications subject to change without notice.

STEREO CASSETTE DECK
SONY®

EXPLODED VIEWS

NOTE :



- - XX, - X mean standardized parts, so they may have some differences from the original one.


- Color Indication of Appearance Parts
Example :

KNOB, BALANCE (WHITE)...(RED)

Parts color Cabinet's color

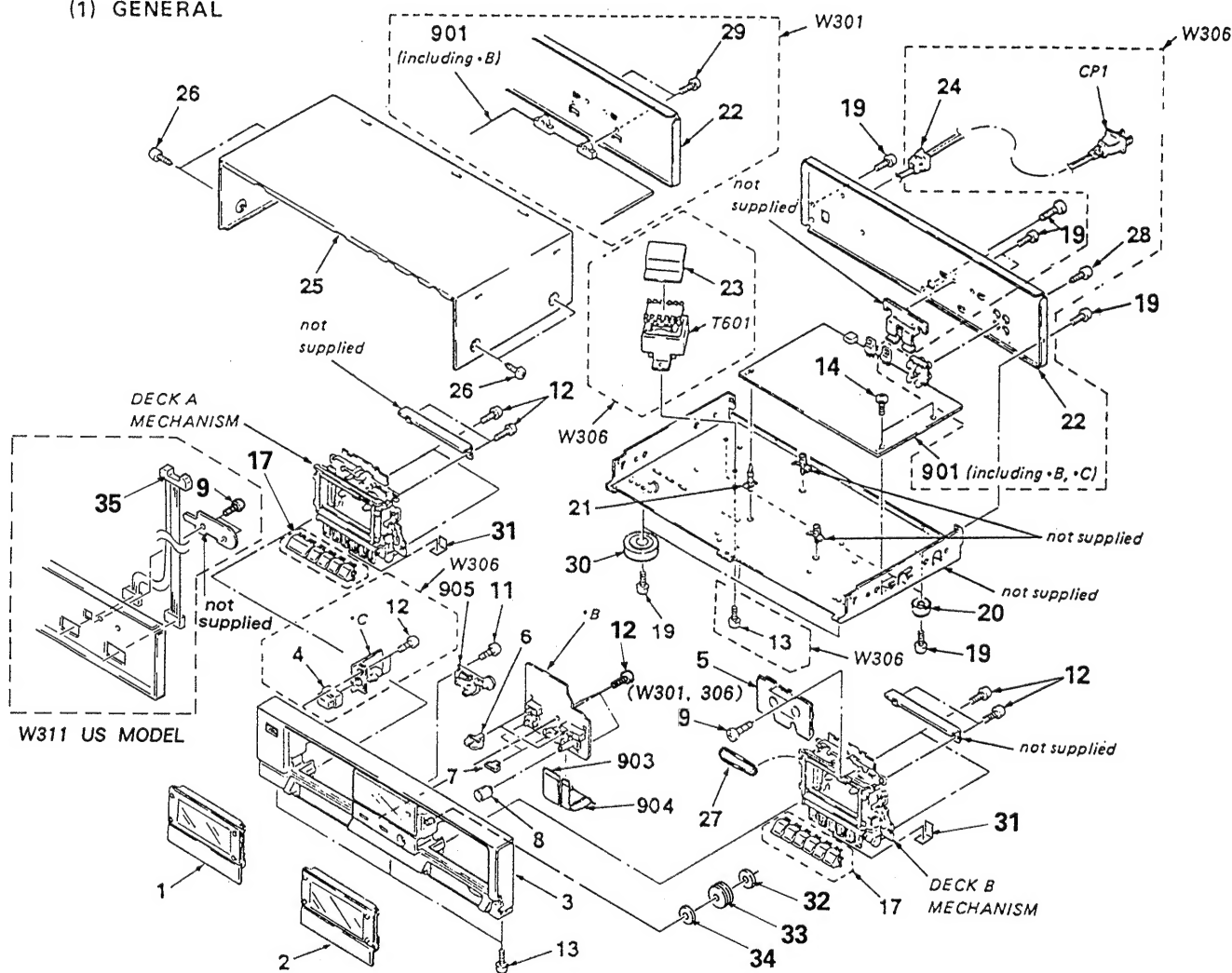
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Refer to page 12 of the TC-W301 Service Manual.

(1) GENERAL



GENERAL PARTS LIST (Parts comparison table of TC-W301 and TC-W311)

Page	Ref. No.	Part No.		Description
		TC-W301	TC-W311	
12	1	X-3340-190-1	← Identical	LID (A) ASSY, CASSETTE
	2	X-3340-189-1	← Identical	LID (B) ASSY, CASSETTE
	3	X-3340-191-1	X-3362-786-1	PANEL ASSY, FRONT
	5	X-3358-214-1	← Identical	PLATE ASSY, ORNAMENTAL
	6	3-346-379-01	← Identical	KNOB (SLIDE)
	7	3-346-381-01	← Identical	BUTTON
	8	3-349-039-01	← Identical	KNOB (VOL)
	9	7-685-133-19	← Identical	SCREW, +BTP 2.6X6 TYPE2 N-S
	11	4-928-635-01	← Identical	SCREW, +BV (2.6X8) TAPPING
	12	4-928-635-21	← Identical	SCREW, +BV (2.6X10) TAPPING
	14	4-886-821-11	Not used	SCREW, S TIGHT, +PTTWH 3X6
	17	4-943-424-01	← Identical	BUTTON (BLOCK B)
	18	4-943-423-01	← Identical	BUTTON (BLOCK A)
	19	7-682-548-09	← Identical	SCREW, +BVTT 3X8 (S)
	20	X-3340-138-1	← Identical	FOOT ASSY (US, Canadian)
		X-3340-173-1	← Identical	FOOT ASSY (E, AUS)
	21	3-346-265-11	← Identical	HOLDER, PC BOARD
	22	*3-349-023-21	*3-349-023-51	PANEL, BACK (US)
		Not used	*3-349-023-61	PANEL, BACK (CND)
		Not used	*3-349-023-71	PANEL, BACK (E, AUS)
	25	*4-943-088-31	← Identical	CASE
	26	3-704-366-01	← Identical	SCREW (CASE) (M3X8)
	27	3-499-042-XX	← Identical	BELT, COUNTER
	29	7-685-646-79	Not used	SCREW, +BVTP 3X8 TYPE 2
	30	X-4904-496-1	X-4941-228-1	FOOT ASSY
	31	Not used	3-359-928-01	FELT (CONDUCTIVE FELT)
	32	3-558-708-11	← Identical	WASHER, STOPPER
	33	3-549-452-00	← Identical	PULLEY, SHUT-OFF
	34	3-701-437-11	← Identical	WASHER
	35	Not used	1-590-537-11	CORD WITH CONNECTOR (US)
	901	*A-2006-071-A	*A-2006-468-A	MOUNTED PCB, AUDIO (US, E, AUS)
		*A-2006-138-A	*A-2006-528-A	MOUNTED PCB, AUDIO (Canadian)
	903	1-574-724-11	1-590-487-11	WIRE, FLAT TYPE (17 CORE)
	904	1-574-723-11	1-590-538-11	WIRE, FLAT TYPE (7 CORE)
	905	1-548-596-61	← Identical	COUNTER, TAPE (MIDDLE TYPE)

• AUS: Australian

ELECTRICAL PARTS LIST

Parts comparison table of TC-W301 and TC-W311

Page	TC-W301				TC-W311			
16	C341	1-126-301-11	ELECT	1MF 20% 50V	C341	1-126-233-11	ELECT	22MF 20% 50V
	C501	1-126-233-11	ELECT	4.7MF 20% 50V	C501	1-126-233-11	ELECT	22MF 20% 50V
17	CN601	*1-566-856-11	SOCKET, CONNETOR	5P (SYSTEM CONTROL 1)	CN601	*1-566-856-41	SOCKET, CONNECTOR	5P (SYSTEM CONTROL 1)(BLU)
	CN604	1-568-439-11	SOCKET, CONNECTOR	7P	CN604	1-568-826-11	SOCKET, CONNECTOR	7P
	CN605	1-568-440-11	SOCKET, CONNECTOR	17P	CN605	1-568-836-11	SOCKET, CONNECTOR	17P
	CN608	1-568-438-11	SOCKET, CONNECTOR	17P	CN608	1-568-860-11	SOCKET, CONNECTOR	17P
	CN609	1-568-437-11	SOCKET, CONNECTOR	7P	CN609	1-568-850-11	SOCKET, CONNECTOR	7P
	D401	8-719-107-94	DIODE	1SS202-1	D401	8-719-987-63	DIODE	1N4148M
	D402	8-719-107-94	DIODE	1SS202-1	D402	8-719-987-63	DIODE	1N4148M
	D501	8-719-107-94	DIODE	1SS202-1	D501	8-719-987-63	DIODE	1N4148M
	D504	8-719-107-94	DIODE	1SS202-1	D504	8-719-987-63	DIODE	1N4148M
	D505	8-719-107-94	DIODE	1SS202-1	D505	8-719-987-63	DIODE	1N4148M
	D506	8-719-107-94	DIODE	1SS202-1	D506	8-719-987-63	DIODE	1N4148M
	D507	8-719-107-94	DIODE	1SS202-1	D507	8-719-987-63	DIODE	1N4148M
	D510	8-719-107-94	DIODE	1SS202-1	D510	8-719-987-63	DIODE	1N4148M
	D512	8-719-107-94	DIODE	1SS202-1	D512	8-719-987-63	DIODE	1N4148M
	D516	8-719-107-94	DIODE	1SS202-1	D516	8-719-987-63	DIODE	1N4148M
	D518	8-719-107-94	DIODE	1SS202-1	D518	8-719-987-63	DIODE	1N4148M
19	S302	1-571-627-21	SWITCH, SLIDE (DECK A TAPE SELECT)		S302	1-570-974-11	SWITCH, SLIDE (DECK A TAPE SELECT)	

TC-W301/W306

SERVICE MANUAL

US Model

TC-W301

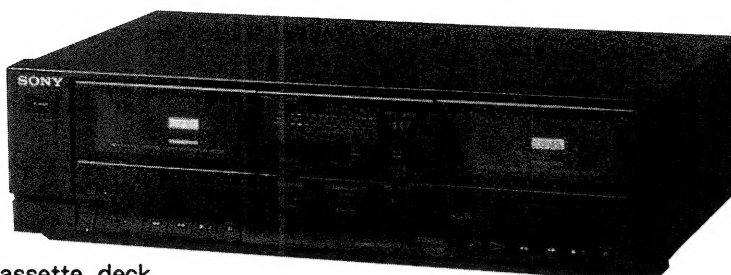
TC-W306

Canadian Model

E Model

Australian Model

TC-W301



TC-W306 is the cassette deck section in SEN-501.

TC-W301 is the cassette deck section in SEN-301.

Photo : TC-W306

SPECIFICATIONS

Recording system

4-track 2-channel stereo

Fast-forward and rewind time

Approx. 120 sec. (with C-60 cassette)

Bias

AC bias

Signal-to-noise ratio (NAB, at peak level)

Dolby NR switch Cassette	OFF	ON
TYPE IV (Sony METAL-ES)	58 dB	65 dB
TYPE II (Sony UX-S)	56 dB	63 dB
TYPE I (Sony HF-S)	54 dB	61 dB

Total harmonic distortion

1.0% (with Sony METAL-ES cassette)

Frequency response (DOLBY NR OFF)

TYPE IV cassette (Sony METAL-ES)	30 – 15,000 Hz (± 3 dB) 30 – 13,000 Hz (0VU recording)
TYPE II cassette (Sony UX-S)	30 – 14,000 Hz (± 3 dB)
TYPE I cassette (Sony HF-S)	30 – 13,000 Hz (± 3 dB)

Wow and flutter 0.12% WRMS (NAB)

Input (TC – W306)

Connector	Type	Sensitivity	Impedance
LINE IN	phono	77.5 mV (-20 dB)	50 k ohms

Model Name Using Similar Mechanism		TC-W295/W390
Tape Transport Mechanism Type	DECK A	W301 : TCM-180VAH1
		W306 : TCM-180VAH5
	DECK B	W301 : TCM-180VBH1
		W306 : TCM-180VBH5

Output (TC – W306)

Connector	Type	Rated output level	Load impedance
LINE OUT	phono	0.44 V (-5 dB) at load impedance 47 k ohms	over 10 k ohms

General (TC – W306)

Power requirements

120 V AC, 60 Hz

Power consumption

15 W


Dimensions

Approx. 430 \times 118 \times 250 mm (w/h/d)
(17 \times 4 $\frac{3}{4}$ \times 9 $\frac{7}{8}$ inches)

including projecting parts and controls

Weight

Approx. 3.4 kg (7 lbs 8 oz)

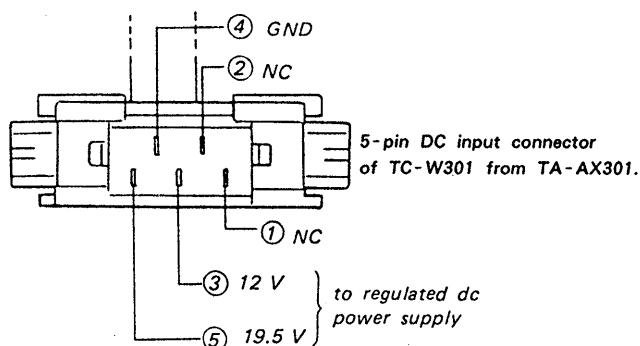
Dolby noise reduction manufactured under license from
Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol  are trademarks of
Dolby Laboratories Licensing Corporation.

STEREO CASSETTE DECK
SONY®



SERVICING NOTE FOR TC-W301

[To supply B+ voltage]


When this model alone operates, connect the unit to the regulated DC power supply, since power of this model is fed from TA-AX301.



SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE  SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

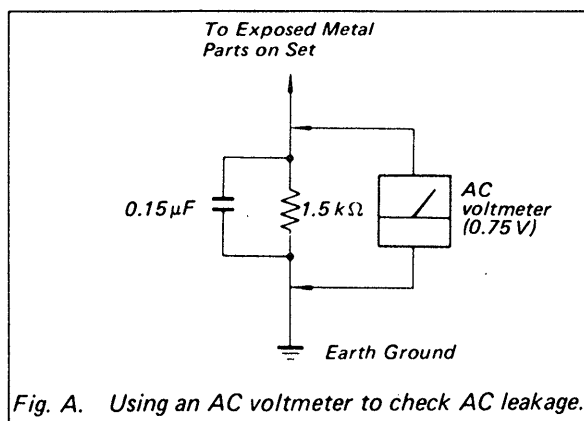
After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)



SECTION 1 ADJUSTMENTS

1-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:

record/playback head	pinch roller
erase head	rubber belts
capstan	idlers

Torque Measurement (DECKS A and B)

Torque	Torque ment	Meter reading
FWD	CQ-102C	35 - 70 g·cm (0.49 - 0.97 oz·inch)
FF, REW	CQ-201B	70 - 160 g·cm (0.98 - 2.22 oz·inch)

1-2. ELECTRICAL ADJUSTMENTS

1. Demagnetize the record/playback and erase head with a head demagnetizer.
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjusted.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
5. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
6. The adjustments should be performed for both L-CH and R-CH.

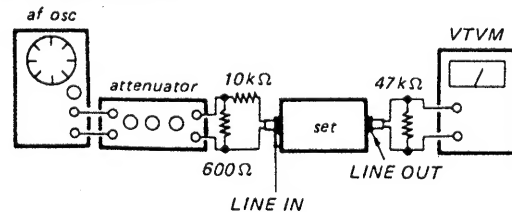
- Switches and controls should be set as follows unless otherwise specified.

DOLBY NR switch: OFF

TAPE SELECT switch: TYPE I (NORMAL)

- Standard Record:
Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

— Record Mode —



Note: Before recording short CN505 with a lead wire, otherwise MUTING functions and output signal does not appear at LINE OUT terminals.

Standard Input Level

	LINE IN
source impedance	10 kΩ
input level	0.25 V (-10dB)

Standard Output Level

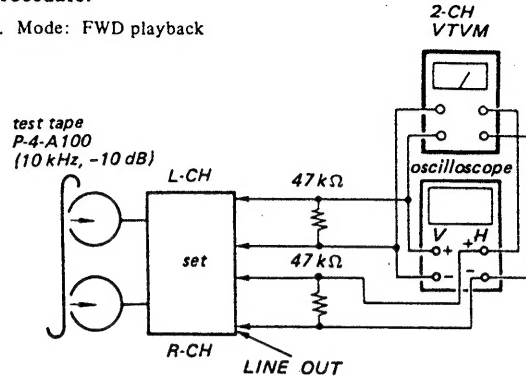
	LINE OUT
load impedance	47 kΩ
output level	0.44 V (-5dB)

Record/Playback Head Azimuth Adjustment

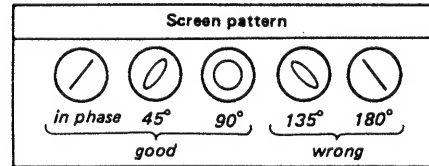
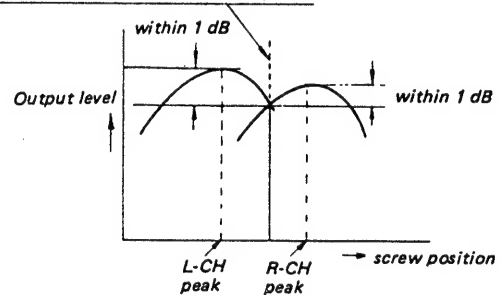
DECK A
DECK B

Procedure:

1. Mode: FWD playback

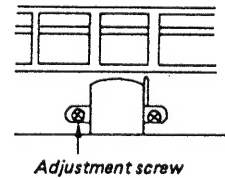


2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1 dB of peak.



3. After the adjustment, apply suitable locking compound to the adjustment screw.

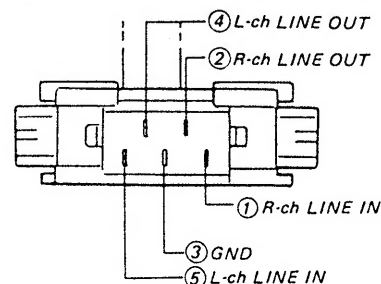
Adjustment Location:



Test Tape:

Type	Signal	Used for
P-4-A100	10kHz, -10dB	Azimuth Adjustment
P-4-L300	315Hz, 0dB	Level Adjustment
WS-48A	3kHz, 0dB	Tape Speed Adjustment

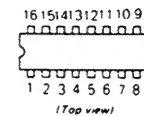
[LINE IN/OUT for TC-W301] : CN321



SECTION 2 DIAGRAMS

2-1. SEMICONDUCTOR LEAD LAYOUTS

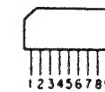
CXA1100P
CXA1198AP
TC4051BPHB



2SC945-P
2SC1815Y
2SD1387



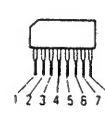
IR2E31A



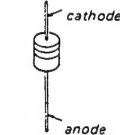
2SD2012



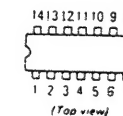
LA3160



HZS6A1L
HZL11CH2



MC14066BCP
μPD4011BC
TC4001BP



SEL1210S-C
SEL1910A-C



2SC3623A-LK



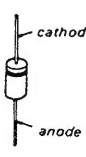
SEL4214S



DTA114ES
DTA144ES
DTC114ES
DTC144ES
2SC2603-EF



1SS202-1
10E2N

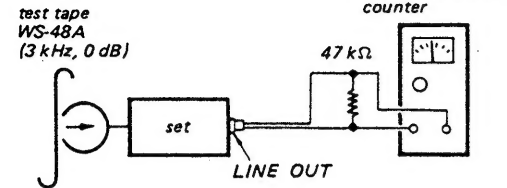


Tape Speed Adjustment

DECK A
DECK B

Procedure:

Mode: FWD playback



1. Short the pins of CN504 with a wire to set the high speed mode.

Measurement limits: high speed

Speed checker	Digital frequency counter
±0.3%	6,000 ± 20 Hz

Frequency difference between the beginning and the end of the tape should be within 1.5% (90 Hz).

Adjustment Location:

DECK-A: RV501
DECK-B: RV503

2. Remove the wire in step 1. (CN504)

Measurement limits: normal speed

Speed checker	Digital frequency counter
±0.3%	3,000 ± 10 Hz

Frequency difference between the beginning and the end of the tape should be within 1.5% (45 Hz).

Adjustment Location:

DECK-A: RV502
DECK-B: RV504

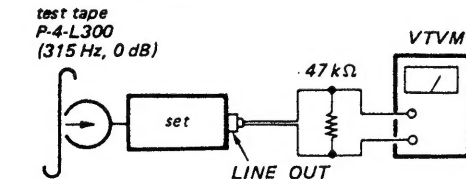
3. If the specifications are not satisfied, repeat step 1 and 2.

Playback Level Adjustment

DECK A
DECK B

Procedure:

Mode: FWD playback



Adjust,
DECK-A: RV101 (L-CH), RV201 (R-CH)
DECK-B: RV102 (L-CH), RV202 (R-CH)
so that the measurement limits are satisfied.

Measurement limits:

LINE OUT level: 0.130 - 0.146 V (-15 ± 0.5 dB)
level difference between the channels: within 0.5 dB

Record Bias Current Adjustment

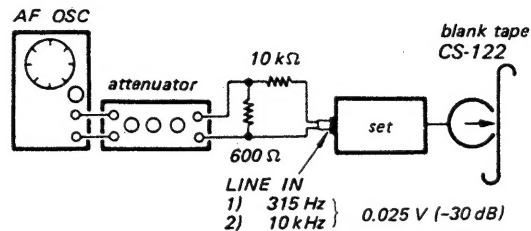
DECK B

Setting:

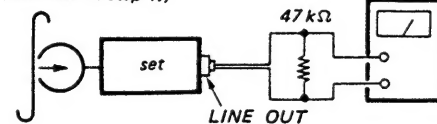
REC LEVEL control: standard record (See page 3.)

Procedure:

1. Mode: record



2. Mode: playback
CS-122
(recorded in step 1.)



Playback the tape record in step 1. If the measurement limits is not satisfied, adjust C408-1 (L-CH), C408-2 (R-CH) and repeat steps 1 and 2.

Measurement limits:

The LINE OUT level of 10 kHz signal relative to that of 315 Hz:
-0.5 dB to 0.5 dB.

Record Level Adjustment

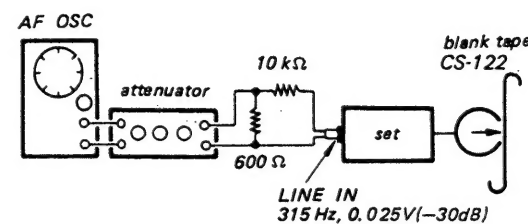
DECK B

Setting:

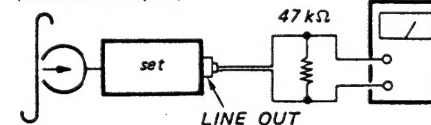
REC LEVEL control: standard record (See page 3.)

Procedure:

1. Mode: record



2. Mode: playback
CS-122
(recorded in step 1.)



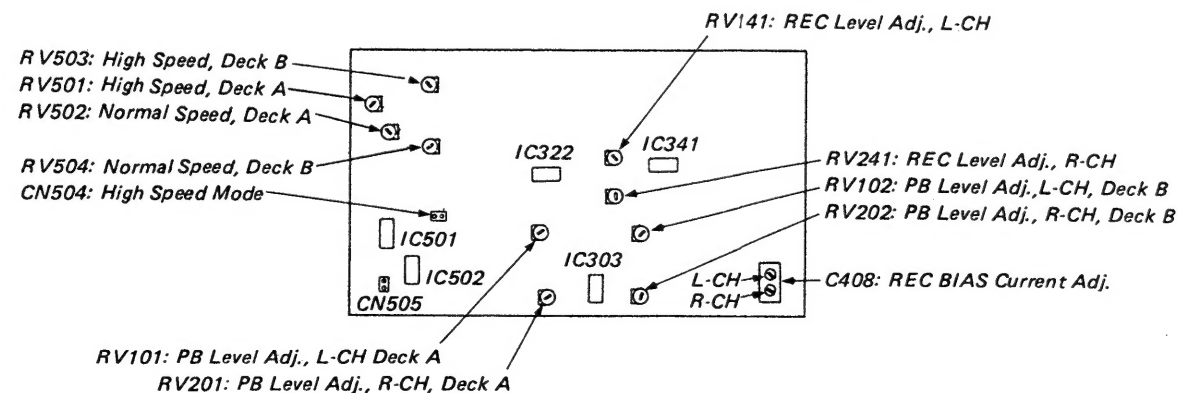
Playback the tape recorded in step 1. If the measurement limits is not satisfied, adjust RV141 (L-CH), RV241 (R-CH) and repeat steps 1 and 2. If the level difference between the channels is still 1 dB or more, divide it to the both channels on the basis of -5 dB.

Measurement limits:

LINE OUT level: 0.041 - 0.045 V (-25 ± 0.5 dB)

Adjustment Location:

[AUDIO BOARD] - COMPONENT SIDE -

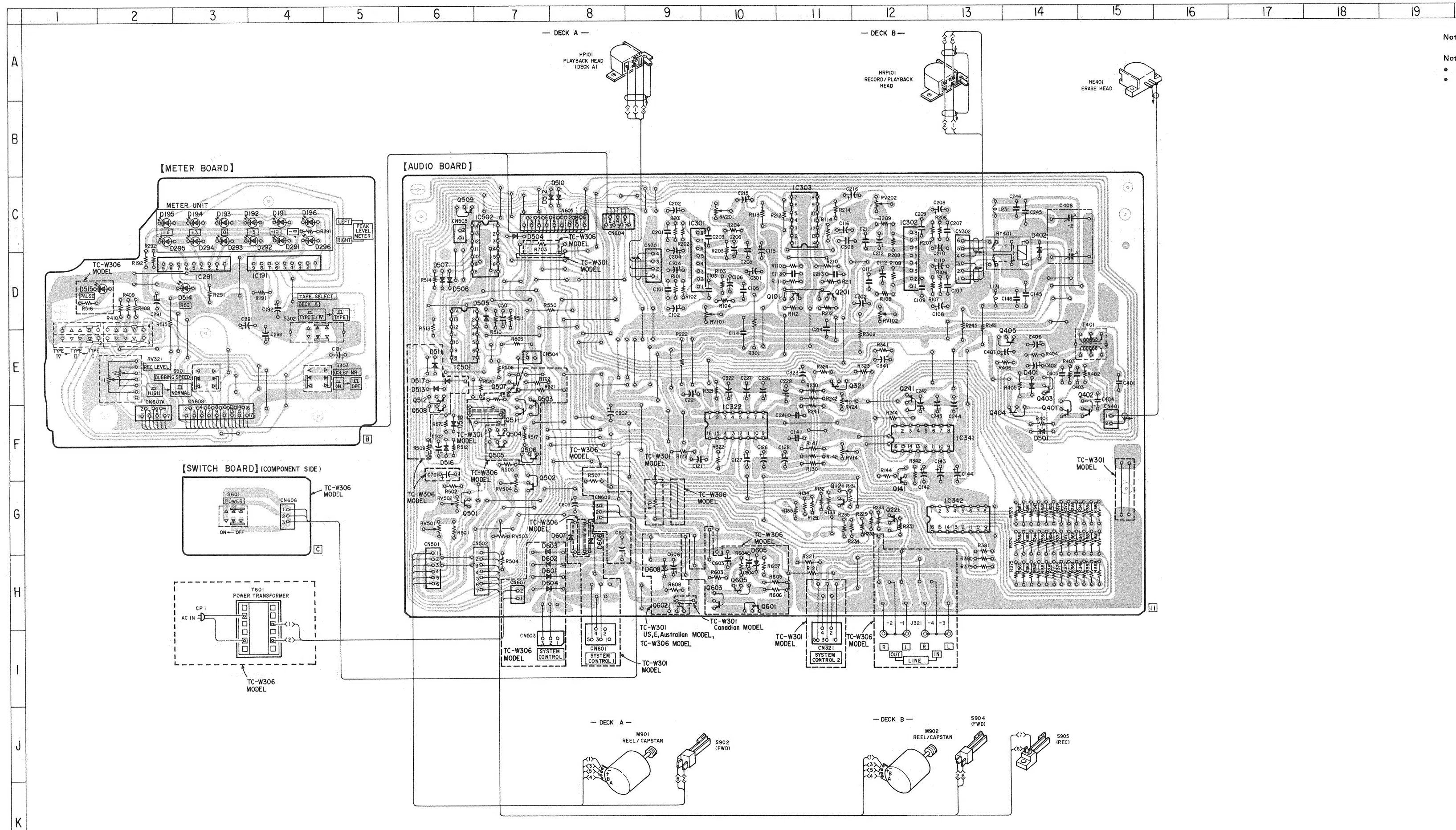


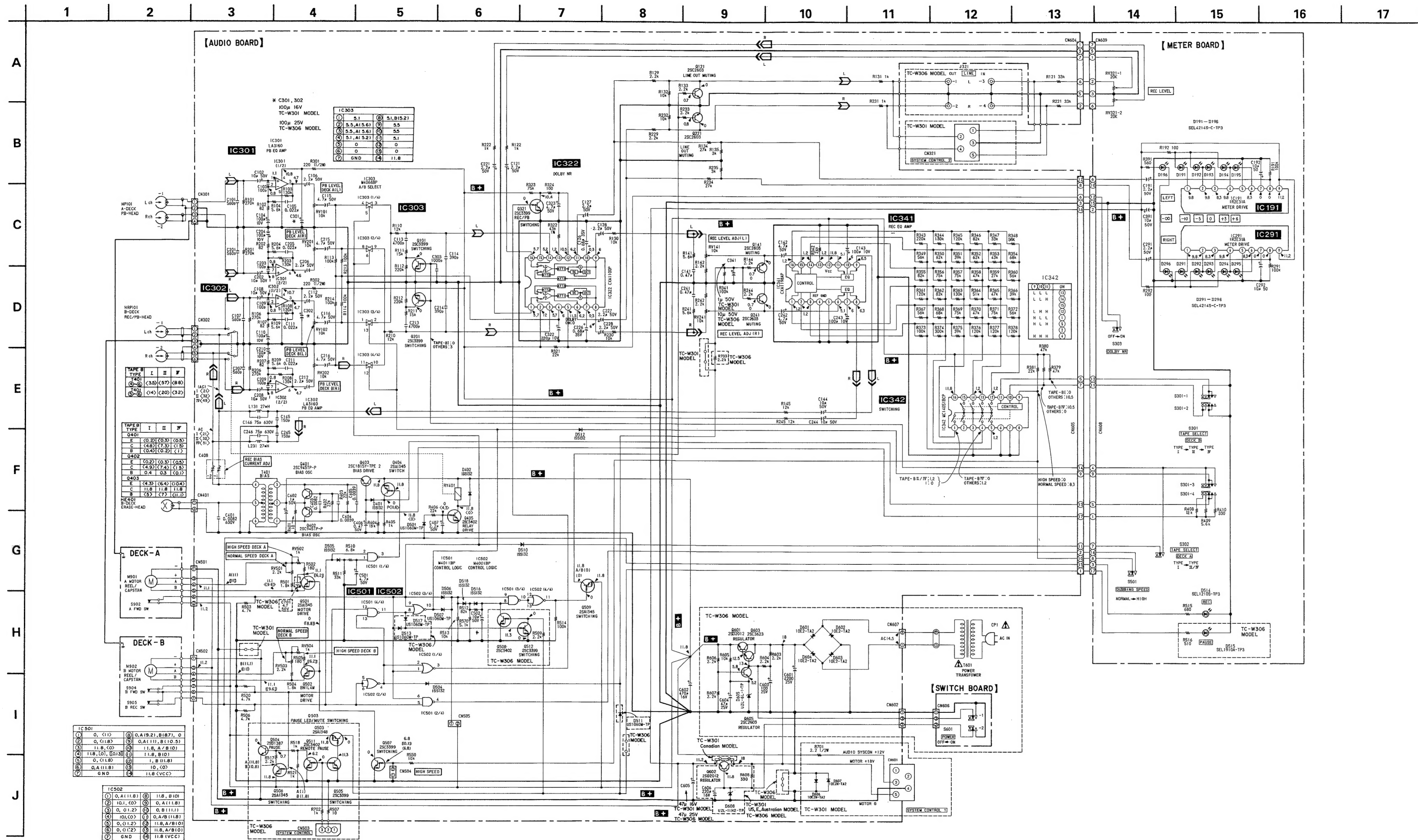
● SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D191	C-4	IC191	D-4
D192	C-4	IC291	D-3
D193	C-3	IC301	C-9
D194	C-3	IC302	C-12
D195	C-2	IC303	C-11
D196	C-4	IC322	F-10
D291	C-4	IC341	F-13
D292	C-4	IC342	G-13
D293	C-3	IC501	D-6
D294	C-3	IC502	C-7
D295	C-2		
D296	C-4	Q101	D-11
D401	E-14	Q121	G-11
D402	C-14	Q141	F-12
D501	F-14	Q201	D-11
D504	C-7	Q221	G-12
D505	D-7	Q241	E-12
D506	D-6	Q321	E-11
D507	D-6	Q401	E-14
D510	C-8	Q402	E-15
D511	E-6	Q403	E-14
D512	C-7	Q404	E-14
D513	E-6	Q405	E-14
D514	D-3	Q501	G-6
D515	D-2	Q502	F-7
D516	F-6	Q503	E-7
D517	E-6	Q504	F-7
D518	F-6	Q505	F-7
D601	H-7	Q506	F-7
D602	G-7	Q507	E-7
D603	G-7	Q508	E-6
D604	H-7	Q509	C-6
D605	G-10	Q511	E-7
D606	G-8	Q512	E-6
D607	G-8	Q601	H-10
D608	H-9	Q602	H-9
		Q603	H-10
		Q605	H-10

2-2. PRINTED WIRING BOARDS





● See page 5 for semiconductor lead layouts.







Note on Schematic Diagram:


Note:

- All capacitors are in μF unless otherwise noted, pF : $\mu\text{M}\Omega$ 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/W$ or less unless otherwise specified.
-  : adjustment for repair.
- AC voltage readings in the bias oscillator with a VTVM.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
no mark: STOP
- A () : PB (DECK A)
- B () : PB (DECK B)
- < > : REC (DECK B)
- [] : DUBBING (NORMAL)
- [[]] : DUBBING (HIGH)
- Voltages are taken with a VOM (Input impedance $10\text{M}\Omega$).
- Voltage variations may be noted due to normal production tolerances.
- Signal path.
-  : PB (DECK A)
-  : PB (DECK B)
-  : REC (DECK B)

Note:

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

Note:

Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SECTION 3

EXPLODED VIEWS



NOTE:


- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
Example:
(RED) ... KNOB, BALANCE (WHITE)

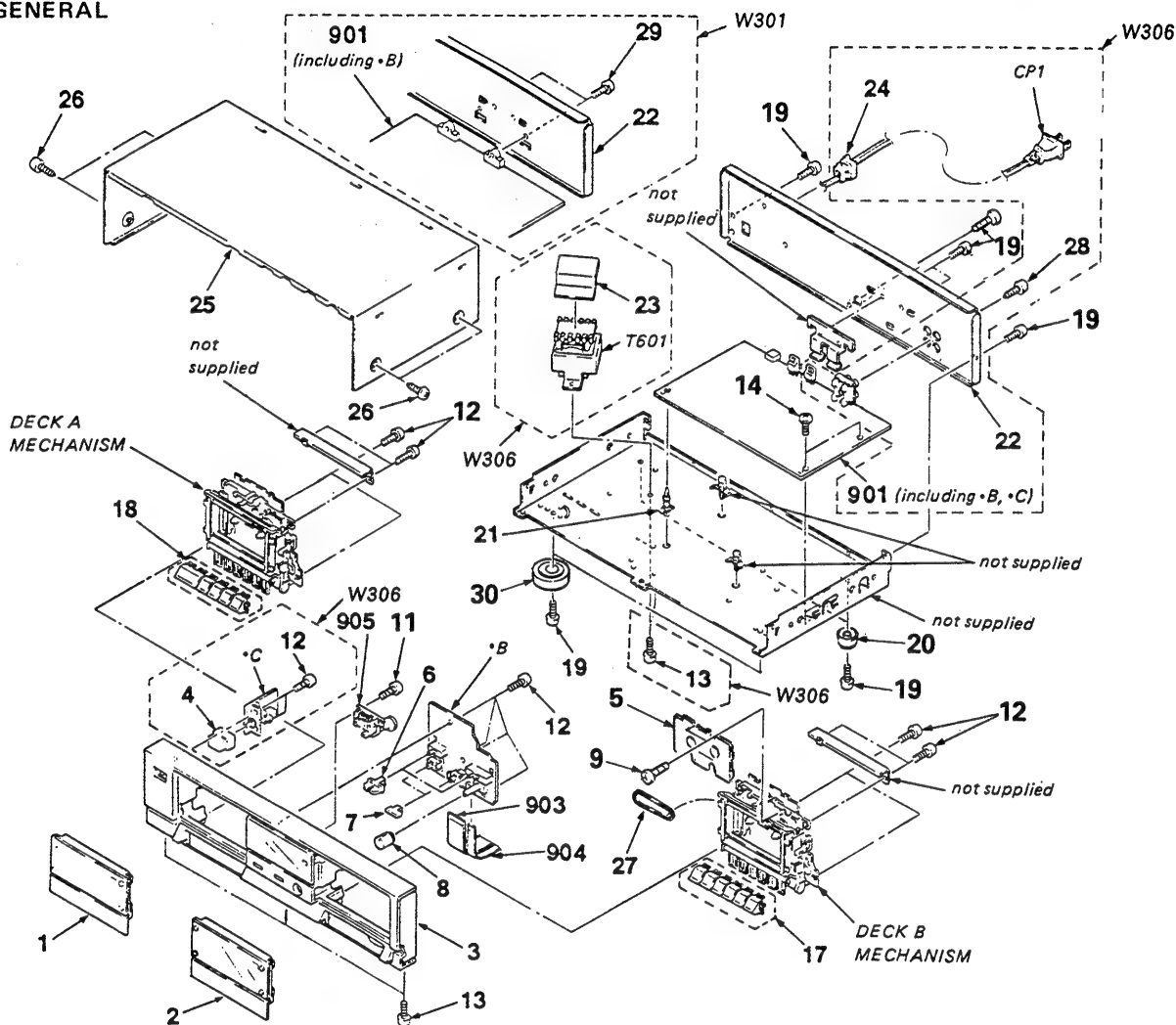
↑
Cabinet's Color

↑
Parts' Color
- AUS : Australian model

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

Les composants identifiés par une
marque  sont critiques pour la
sécurité.
Ne les remplacer que par une
pièce portant le numéro spécifié.

(1) GENERAL

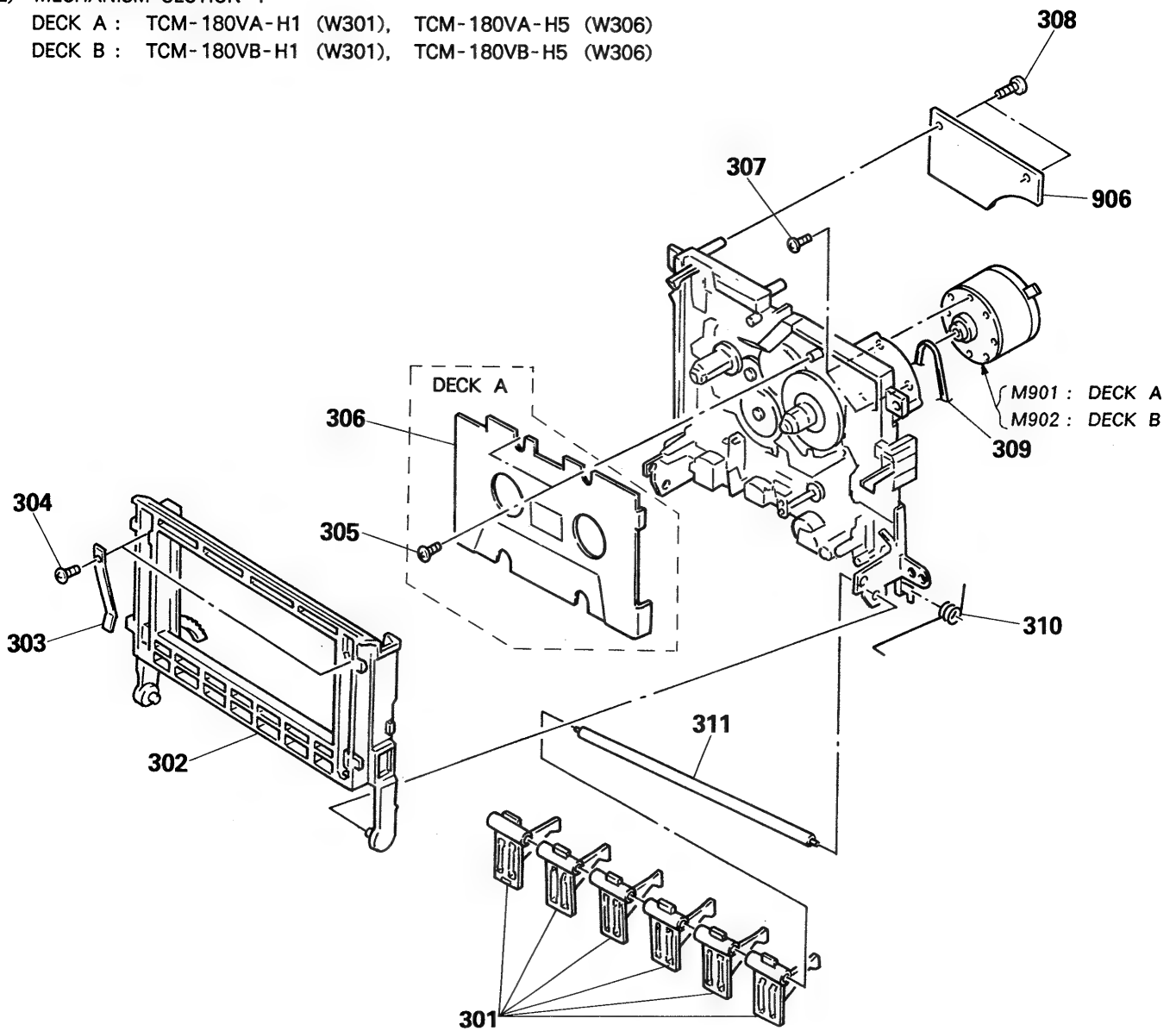


No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	X-3340-190-1	LID (A) ASSY, CASSETTE		22	*3-349-023-21	(W301)...PANEL, BACK	
2	X-3340-189-1	LID (B) ASSY, CASSETTE			*3-349-023-31	(W306)...PANEL, BACK	
3	X-3340-191-1	(W301)...PANEL ASSY, FRONT		23	*3-327-855-01	(W306)...COVER (TRANSFORMER)	
	X-3346-302-1	(W306)...PANEL ASSY, FRONT		24	*3-703-571-11	(W306)...BUSHING (S) (4516), CORD	
4	3-354-912-01	(W306)...KNOB, POWER		25	3-327-856-61	CASE	
5	X-3358-214-1	PLATE ASSY, ORNAMENTAL		26	3-704-366-01	SCREW (CASE) (M3X8)	
6	3-346-379-01	KNOB (SLIDE)		27	3-499-042-XX	BELT, COUNTER	
7	3-346-381-01	BUTTON		28	7-621-849-00	(W306)...SCREW, TAPPING	
8	3-349-039-01	KNOB (VOL)		29	7-685-646-79	(W301)...SCREW, +BVTP 3X8 TYPE 2	
9	7-685-133-19	SCREW +BTP 2.6X6 TYPE2 N-S		30	X-3340-138-1	(W301:US,Canadian,W306)...FOOT ASSY	
11	4-928-635-01	SCREW, +BV (2.6X8) TAPPING			X-3340-173-1	(W301:E,AUS).....FOOT ASSY	
12	4-928-635-21	SCREW, +BV (2.6X10) TAPPING		901	*A-2006-071-A	(W301:US,E,AUS)...MOUNTED PCB, AUDIO	
13	7-682-548-04	(W306)...SCREW +BVTT 3X8 (S)			*A-2006-072-A	(W306).....MOUNTED PCB, AUDIO	
14	4-886-821-11	(W301)...SCREW, S TIGHT, +PTTWH 3X6			*A-2006-138-A	(W301:Canadian)...MOUNTED PCB, AUDIO	
	7-682-548-09	(W306)...SCREW, +BVTP 3X8 (S)		903	1-574-724-11	WIRE, FLAT TYPE (17 CORE)	
17	3-349-043-11	BUTTON (BLOCK B)		904	1-574-723-11	WIRE, FLAT TYPE (7 CORE)	
18	3-349-042-11	BUTTON (BLOCK A)		905	1-548-596-61	COUNTER, TAPE (MIDDLE TYPE)	
19	7-682-548-09	SCREW +BVTT 3X8 (S)		CP1	Δ.1-558-945-11	(W306)...CORD, POWER (POLAR.SPT-1)	
20	X-4904-496-1	FOOT ASSY		T601	Δ.1-449-256-11	(W306)...TRANSFORMER, POWER	
21	*3-346-265-11	HOLDER, PC BOARD					

(2) MECHANISM SECTION-1

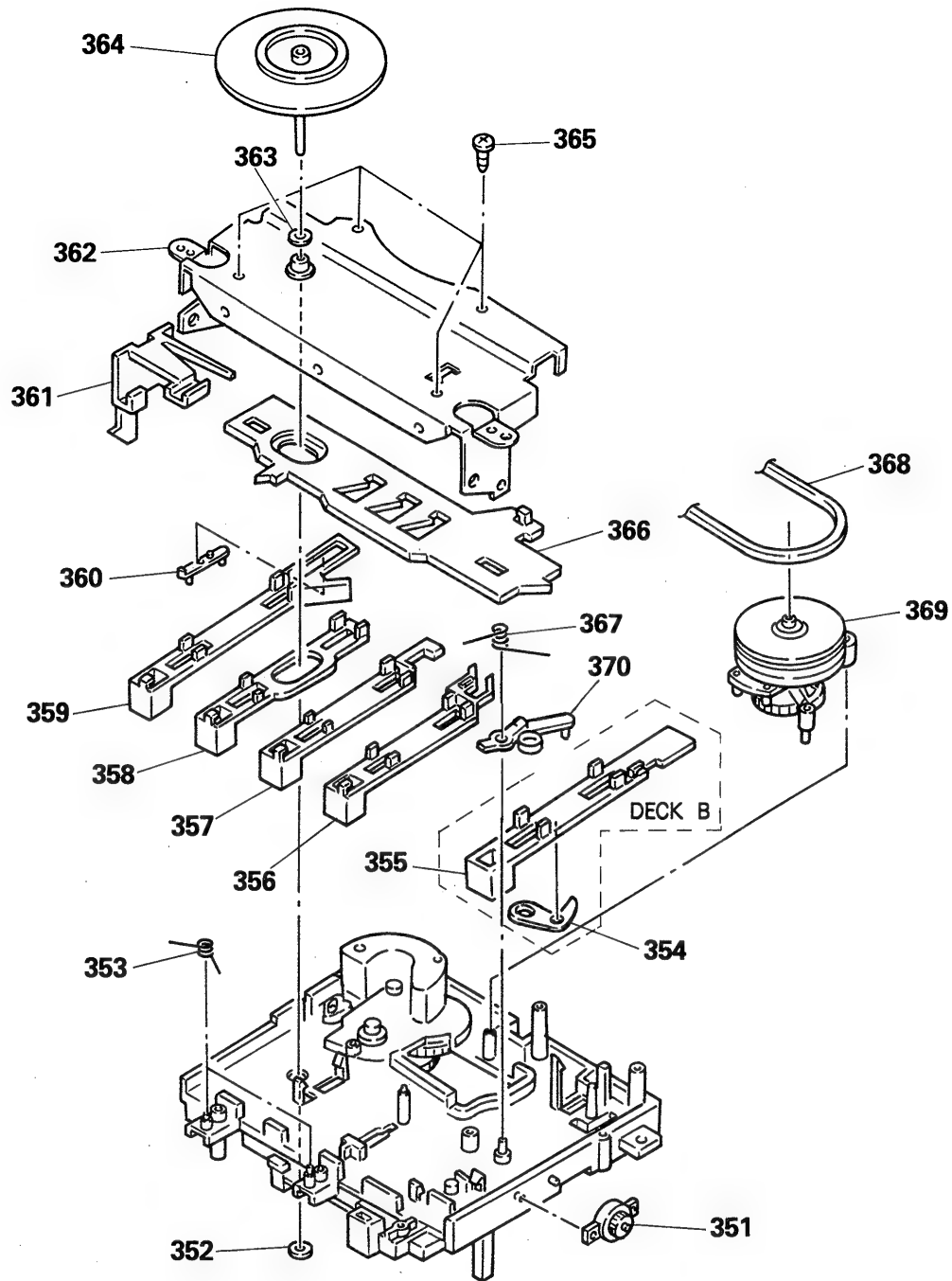
DECK A : TCM-180VA-H1 (W301), TCM-180VA-H5 (W306)

DECK B : TCM-180VB-H1 (W301), TCM-180VB-H5 (W306)



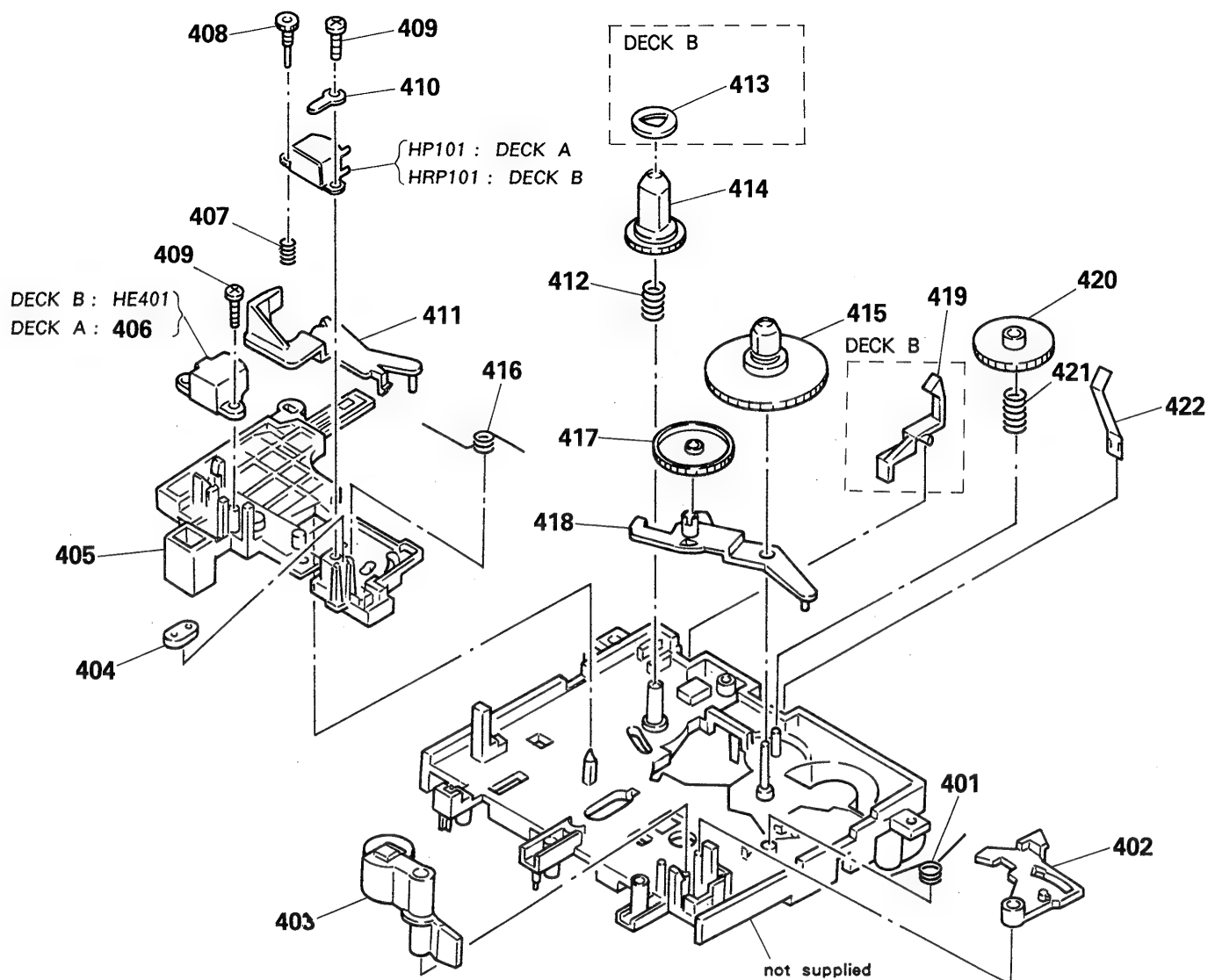
No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
301	3-358-271-01	LEVER (BUTTON BASE A)		308	7-685-133-19	SCREW +BTP 2.6X6 TYPE2 N-S	
302	3-358-266-01	HOLDER, CASSETTE		309	3-358-272-01	BELT (A2)	
303	3-358-209-01	SPRING (CASSETTE HOLDER), LEAF		310	3-358-287-01	SPRING (LOADING A), TORSION	
304	7-685-103-19	SCREW +P 2X5 TYPE2 NON-SLIT		311	3-358-242-01	SHAFT (BUTTON SHAFT)	
305	7-685-132-19	(DECK A)...SCREW +BTP 2.6X5 TYPE2 N-S		906	*1-635-158-11	PC BOARD, SW	
306	X-3358-214-1	(DECK A)...PLATE ASSY, ORNAMENTAL		M901	X-3358-212-1	MOTOR (B) ASSY	
307	7-621-775-20	SCREW +B 2.6X5		M902	X-3358-212-1	MOTOR (B) ASSY	

(3) MECHANISM SECTION-2



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
351	3-319-224-31	DAMPER, SMALL		362	*X-3358-213-1	BRACKET (A) ASSY	
352	7-623-921-01	WASHER 1.7, NYLONE		363	3-701-437-01	WASHER	
353	3-358-232-01	SPRING (S-P F-R), TORSION		364	X-3358-205-1	FLYWHEEL (A) ASSY	
354	*3-358-204-01	(DECK B)...LEVER (REC SAFETY)		365	7-685-133-19	SCREW +P 2.6X6 TYPE1	
355	3-358-259-01	(DECK B)...SLIDER (REC)		366	*3-358-249-01	SLIDER (LOCK PLATE)	
356	3-358-258-01	SLIDER (REW)		367	3-358-214-01	(DECK A)...SPRING (LOCK), TORSION	
357	3-358-257-01	SLIDER (FF)			3-358-233-01	(DECK B)...SPRING (REC-LOCK), TORSION	
358	3-358-256-01	SLIDER (STOP/EJECT)		368	3-358-230-01	BELT (A1)	
359	3-358-260-01	SLIDER (PAUSE)		369	X-3358-202-1	LEVER (FR ARM) ASSY	
360	*3-358-226-01	LEVER (PAUSE LEVER)		370	*3-358-286-01	LEVER (MOTOR LEVER)	
361	*3-358-261-01	SLIDER (HOLDER LOCK)					

(4) MECHANISM SECTION-3



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
401	3-358-243-01	SPRING (TU-SHUT), TORSION		414	3-358-248-01	GEAR (SUPPLY REEL)	
402	*3-358-253-01	LEVER (SHUT-OFF LEVER)		415	X-3358-203-1	TABLE (T) ASSY, REEL	
403	X-3358-204-1	LEVER (PINCH LEVER) ASSY		416	3-358-228-01	SPRING, TORSION	
404	*3-358-215-01	BUSHING (WIRE KIT RETAINER)		417	*3-358-284-01	GEAR (TU GEAR)	
405	3-358-265-01	SLIDER (HEAD PC BOARD A)		418	*3-358-252-01	LEVER (TU ARM)	
406	3-358-285-01	(DECK A)...GUIDE, TAPE		419	*3-358-255-01	(DECK B)...LEVER (GB LEVER)	
407	3-358-234-01	SPRING (AZIMUTH), COMPRESSION		420	*3-358-224-01	GEAR (FF GEAR)	
408	3-358-213-01	SCREW, AZIMUTH		421	3-358-207-01	SPRING (FF GEAR), COMPRESSION	
409	7-685-105-19	TPG +P 2X8, TYPE 2, NON-SLIT		422	3-358-227-01	SPRING, LEAF	
410	7-623-505-01	LUG, 2		HE401	1-543-673-11	HEAD, MAGNETIC (ERASE)	
411	*3-358-251-01	LEVER (TENSION DETECTION ARM)		HP101	1-543-672-11	HEAD, MAGNETIC (REC/PB)	
412	3-358-208-01	SPRING (SUPPLY), COMPRESSION		HRP101	1-543-672-11	HEAD, MAGNETIC (REC/PB)	
413	*3-358-270-01	(DECK B)...PULLEY (COUNTER PULLEY)					

SECTION 4

ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:MF: μ F, PF: μ F.**RESISTORS**

- All resistors are in ohms.
- F: nonflammable

COILS

- MMH: mH, UH: μ H

SEMICONDUCTORSIn each case, U: μ , for example:UA...: μ A..., UPA...: μ PA...,UPC...: μ PC, UPD...: μ PD...

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

• AUS: Australian model

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
901	*A-2006-071-A	(W301:US,E,AUS)...MOUNTED PCB, AUDIO	C212	1-126-161-11	ELECT 2.2MF 20% 50V
	*A-2006-072-A	(W306).....MOUNTED PCB, AUDIO	C213	1-161-377-00	CERAMIC 0.0047MF 20% 16V
	*A-2006-138-A	(W301:Canadian)...MOUNTED PCB, AUDIO	C214	1-162-289-31	CERAMIC 390PF 10% 50V
903	1-574-724-11	WIRE, FLAT TYPE (17 CORE)	C215	1-124-045-00	ELECT 4.7MF 20% 50V
904	1-574-723-11	WIRE, FLAT TYPE (7 CORE)	C216	1-124-045-00	ELECT 4.7MF 20% 50V
905	1-548-596-61	COUNTER, TAPE (MIDDLE TYPE)	C221	1-126-161-11	ELECT 2.2MF 20% 50V
906	*1-635-158-11	PC BOARD, SW	C226	1-131-587-11	TANTALUM 0.68MF 10% 35V
C101	1-162-291-31	CERAMIC 560PF 10% 50V	C227	1-124-257-00	ELECT 2.2MF 20% 50V
C102	1-126-059-11	ELECT 10MF 20% 50V	C228	1-126-161-11	ELECT 2.2MF 20% 50V
C103	1-162-282-31	CERAMIC 100PF 10% 50V	C241	1-136-173-00	FILM 0.47MF 5% 50V
C104	1-124-994-11	ELECT 100MF 20% 10V	C242	1-124-045-00	ELECT 4.7MF 20% 50V
C105	1-136-157-00	FILM 0.022MF 5% 50V	C243	1-124-994-11	ELECT 100MF 20% 10V
C106	1-126-161-11	ELECT 2.2MF 20% 50V	C244	1-126-059-11	ELECT 10MF 20% 50V
C107	1-162-291-31	CERAMIC 560PF 10% 50V	C245	1-162-284-31	CERAMIC 150PF 10% 50V
C108	1-126-059-11	ELECT 10MF 20% 50V	C246	1-136-273-91	FILM 75PF 5% 630V
C109	1-162-282-31	CERAMIC 100PF 10% 50V	C291	1-126-161-11	ELECT 2.2MF 20% 50V
C110	1-124-994-11	ELECT 100MF 20% 10V	C292	1-126-059-11	ELECT 10MF 20% 50V
C111	1-136-157-00	FILM 0.022MF 5% 50V	C301	1-124-478-11	(W306)...ELECT 100MF 20% 25V
C112	1-126-161-11	ELECT 2.2MF 20% 50V	C301	1-126-023-11	(W301)...ELECT 100MF 20% 16V
C113	1-161-377-00	CERAMIC 0.0047MF 20% 16V	C302	1-124-478-11	(W306)...ELECT 100MF 20% 25V
C114	1-162-289-31	CERAMIC 390PF 10% 50V	C302	1-126-023-11	(W301)...ELECT 100MF 20% 16V
C115	1-124-045-00	ELECT 4.7MF 20% 50V	C303	1-162-294-31	CERAMIC 0.001MF 10% 50V
C116	1-124-045-00	ELECT 4.7MF 20% 50V	C322	1-126-101-11	ELECT 220MF 20% 10V
C121	1-126-161-11	ELECT 2.2MF 20% 50V	C323	1-124-045-00	ELECT 4.7MF 20% 50V
C126	1-131-587-11	TANTALUM 0.68MF 10% 35V	C341	1-126-059-11	(W306)...ELECT 10MF 20% 50V
C127	1-124-257-00	ELECT 2.2MF 20% 50V	C341	1-126-301-11	(W301)...ELECT 1MF 20% 50V
C128	1-126-161-11	ELECT 2.2MF 20% 50V	C391	1-126-059-11	ELECT 10MF 20% 50V
C141	1-136-173-00	FILM 0.47MF 5% 50V	C401	1-136-562-11	FILM 0.0082MF 5% 630V
C142	1-124-045-00	ELECT 4.7MF 20% 50V	C402	1-126-301-11	ELECT 1MF 20% 50V
C143	1-124-994-11	ELECT 100MF 20% 10V	C403	1-130-482-00	MYLAR 0.0082MF 5% 50V
C144	1-126-059-11	ELECT 10MF 20% 50V	C404	1-130-478-00	MYLAR 0.0039MF 5% 50V
C145	1-162-284-31	CERAMIC 150PF 10% 50V	C405	1-130-478-00	MYLAR 0.0039MF 5% 50V
C146	1-136-273-91	FILM 75PF 5% 630V	C406	1-126-300-11	ELECT 0.47MF 20% 50V
C191	1-126-161-11	ELECT 2.2MF 20% 50V	C407	1-126-161-11	ELECT 2.2MF 20% 50V
C192	1-126-059-11	ELECT 10MF 20% 50V	C408	1-141-225-00	CAP, TUNING, TRIMAR
C201	1-162-291-31	CERAMIC 560PF 10% 50V	C501	1-124-045-00	ELECT 4.7MF 20% 50V
C202	1-126-059-11	ELECT 10MF 20% 50V	C502	1-126-059-11	ELECT 10MF 20% 50V
C203	1-162-282-31	CERAMIC 100PF 10% 50V	C601	1-124-962-11	(W306)...ELECT 2200MF 20% 25V
C204	1-124-994-11	ELECT 100MF 20% 10V	C602	1-126-012-11	ELECT 470MF 20% 16V
C205	1-136-157-00	FILM 0.022MF 5% 50V	C603	1-124-478-11	(W306)...ELECT 100MF 20% 25V
C206	1-126-161-11	ELECT 2.2MF 20% 50V	C604	1-124-910-11	(W306)...ELECT 47MF 20% 25V
C207	1-162-291-31	CERAMIC 560PF 10% 50V	C605	1-124-910-11	(W306)...ELECT 47MF 20% 25V
C208	1-126-059-11	ELECT 10MF 20% 50V	C605	1-126-022-11	(W301)...ELECT 47MF 20% 16V
C209	1-162-282-31	CERAMIC 100PF 10% 50V	C606	1-126-024-11	ELECT 220MF 20% 16V
C210	1-124-994-11	ELECT 100MF 20% 10V	C701	1-124-045-00	(W306)...ELECT 4.7MF 20% 50V
C211	1-136-157-00	FILM 0.022MF 5% 50V			

Ref.No.	Part No.	Description
CN301	*1-564-507-11	PLUG, CONNECTOR 4P
CN302	*1-564-509-11	PLUG, CONNECTOR 6P
CN321	*1-566-856-11	(W301)...SOCKET, CONNECTOR 5P (SYSTEM CONTROL 2)
CN401	*1-564-505-11	PLUG, CONNECTOR 2P
CN503	*1-566-210-11	(W306)...PIN, CONNECTOR 3P (SYSTEM CONTROL)
CN504	*1-564-505-11	PLUG, CONNECTOR 2P
CN505	*1-564-505-11	PLUG, CONNECTOR 2P
CN601	*1-566-856-11	(W301)...SOCKET, CONNECTOR 5P (SYSTEM CONTROL 1)
CN602	*1-564-337-00	(W306)...PIN, CONNECTOR 3P
CN604	1-568-439-11	SOCKET, CONNECTOR 7P
CN605	1-568-440-11	SOCKET, CONNECTOR 17P
CN608	1-568-438-11	SOCKET, CONNECTOR 17P
CN609	1-568-437-11	SOCKET, CONNECTOR 7P
CN901	*1-564-499-11	PIN, CONNECTOR 6P
CN902	*1-564-500-11	PIN, CONNECTOR 7P
CP1	△1-558-945-11	(W306)...CORD, POWER (POLAR.SPT-1)
D191	8-719-304-32	DIODE SEL4214S
D192	8-719-304-32	DIODE SEL4214S
D193	8-719-304-32	DIODE SEL4214S
D194	8-719-304-32	DIODE SEL4214S
D195	8-719-304-32	DIODE SEL4214S
D196	8-719-304-32	DIODE SEL4214S
D291	8-719-304-32	DIODE SEL4214S
D292	8-719-304-32	DIODE SEL4214S
D293	8-719-304-32	DIODE SEL4214S
D294	8-719-304-32	DIODE SEL4214S
D295	8-719-304-32	DIODE SEL4214S
D296	8-719-304-32	DIODE SEL4214S
D401	8-719-107-94	DIODE 1SS202-1
D402	8-719-107-94	DIODE 1SS202-1
D501	8-719-107-94	DIODE 1SS202-1
D504	8-719-107-94	DIODE 1SS202-1
D505	8-719-107-94	DIODE 1SS202-1
D506	8-719-107-94	DIODE 1SS202-1
D507	8-719-107-94	DIODE 1SS202-1
D510	8-719-107-94	DIODE 1SS202-1
D511	8-719-107-94	(W306)...DIODE 1SS202-1
D512	8-719-107-94	DIODE 1SS202-1
D513	8-719-107-94	(W306)...DIODE 1SS202-1
D514	8-719-302-46	DIODE SEL1210S-C
D515	8-719-302-79	(W306)...DIODE SEL1910A-C
D516	8-719-107-94	DIODE 1SS202-1
D517	8-719-107-94	DIODE 1SS202-1
D518	8-719-107-94	DIODE 1SS202-1
D601	8-719-200-77	(W306)...DIODE 10E2N
D602	8-719-200-77	(W306)...DIODE 10E2N
D603	8-719-200-77	(W306)...DIODE 10E2N
D604	8-719-200-77	(W306)...DIODE 10E2N
D605	8-719-933-33	(W306)...DIODE HZS6A1L
D606	8-719-200-77	(W301)...DIODE 10E2N
D607	8-719-200-77	(W301)...DIODE 10E2N
D608	8-719-001-54	(W301:US,E,AUS,W306)...DIODE UZL-11H2
HE401	1-543-673-11	HEAD, MAGNETIC (ERASE)
HP101	1-543-672-11	HEAD, MAGNETIC (REC/PB)
HRP101	1-543-672-11	HEAD, MAGNETIC (REC/PB)

Ref.No.	Part No.	Description
IC191	8-759-917-42	IC IR2E31A
IC291	8-759-917-42	IC IR2E31A
IC301	8-759-800-36	IC LA3160
IC302	8-759-800-36	IC LA3160
IC303	8-759-000-49	IC MC14066BCP
IC322	8-752-031-67	IC CXA1100P
IC341	8-752-038-02	IC CXA1198AP
IC342	8-759-208-06	IC TC4051BPHB
IC501	8-759-140-11	IC UPD4011BC
IC502	8-759-240-01	IC TC4001BP
J321	1-565-258-11	(W306)...JACK, PIN 4P (LINE IN/OUT)
L131	1-410-780-11	INDUCTOR 27MMH
L231	1-410-780-11	INDUCTOR 27MMH
M901	X-3358-212-1	MOTOR (B) ASSY
M902	X-3358-212-1	MOTOR (B) ASSY
Q101	8-729-900-89	TRANSISTOR DTC144ES
Q121	8-729-620-05	TRANSISTOR 2SC2603-EF
Q141	8-729-620-05	TRANSISTOR 2SC2603-EF
Q201	8-729-900-89	TRANSISTOR DTC144ES
Q221	8-729-620-05	TRANSISTOR 2SC2603-EF
Q241	8-729-620-05	TRANSISTOR 2SC2603-EF
Q321	8-729-900-89	TRANSISTOR DTC144ES
Q401	8-729-194-57	TRANSISTOR 2SC945-P
Q402	8-729-194-57	TRANSISTOR 2SC945-P
Q403	8-729-281-52	TRANSISTOR 2SC1815Y
Q404	8-729-900-65	TRANSISTOR DTA144ES
Q405	8-729-900-80	TRANSISTOR DTC114ES
Q501	8-729-900-65	TRANSISTOR DTA144ES
Q502	8-729-900-65	TRANSISTOR DTA144ES
Q503	8-729-900-61	(W306)...TRANSISTOR DTA114ES
Q504	8-729-801-93	(W306)...TRANSISTOR 2SD1387
Q505	8-729-900-89	(W306)...TRANSISTOR DTC144ES
Q506	8-729-900-65	(W306)...TRANSISTOR DTA144ES
Q507	8-729-900-89	TRANSISTOR DTC144ES
Q508	8-729-900-80	(W306)...TRANSISTOR DTC114ES
Q509	8-729-900-65	TRANSISTOR DTA144ES
Q511	8-729-900-80	(W306)...TRANSISTOR DTC114ES
Q512	8-729-900-89	(W306)...TRANSISTOR DTC144ES
Q601	8-729-209-15	(W306)...TRANSISTOR 2SD2012
Q602	8-729-209-15	(W301:US,E,US,W306)..TRANSISTOR 2SD2012
Q603	8-729-141-30	(W306)...TRANSISTOR 2SC3623A-LK
Q605	8-729-620-05	(W306)...TRANSISTOR 2SC2603-EF
R101	1-247-889-00	CARBON 270K 5% 1/4W
R102	1-249-404-00	CARBON 82 5% 1/4W
R103	1-247-882-11	CARBON 130K 5% 1/4W
R104	1-249-426-11	CARBON 5.6K 5% 1/4W
R106	1-247-889-00	CARBON 270K 5% 1/4W
R107	1-249-404-00	CARBON 82 5% 1/4W
R108	1-247-882-11	CARBON 130K 5% 1/4W
R109	1-249-426-11	CARBON 5.6K 5% 1/4W
R110	1-249-430-11	CARBON 12K 5% 1/4W
R111	1-249-431-11	CARBON 15K 5% 1/4W
R112	1-247-887-00	CARBON 220K 5% 1/4W
R113	1-249-441-11	CARBON 100K 5% 1/4W
R114	1-249-441-11	CARBON 100K 5% 1/4W
R121	1-249-435-11	CARBON 33K 5% 1/4W
R122	1-249-417-11	CARBON 1K 5% 1/4W

Note:

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Note:

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description			
R129	1-249-421-11	CARBON	2.2K	5%	1/4W
R130	1-249-429-11	CARBON	10K	5%	1/4W
R131	1-249-417-11	CARBON	1K	5%	1/4W
R132	1-249-429-11	CARBON	10K	5%	1/4W
R133	1-249-421-11	CARBON	2.2K	5%	1/4W
R134	1-249-434-11	CARBON	27K	5%	1/4W
R135	1-247-842-11	CARBON	3K	5%	1/4W
R141	1-249-426-11	CARBON	5.6K	5%	1/4W
R142	1-249-421-11	CARBON	2.2K	5%	1/4W
R144	1-249-421-11	CARBON	2.2K	5%	1/4W
R145	1-249-430-11	CARBON	12K	5%	1/4W
R191	1-249-441-11	CARBON	100K	5%	1/4W
R192	1-249-405-11	CARBON	100	5%	1/4W
R201	1-247-889-00	CARBON	270K	5%	1/4W
R202	1-249-404-00	CARBON	82	5%	1/4W
R203	1-247-882-11	CARBON	130K	5%	1/4W
R204	1-249-426-11	CARBON	5.6K	5%	1/4W
R206	1-247-889-00	CARBON	270K	5%	1/4W
R207	1-249-404-00	CARBON	82	5%	1/4W
R208	1-247-882-11	CARBON	130K	5%	1/4W
R209	1-249-426-11	CARBON	5.6K	5%	1/4W
R210	1-249-430-11	CARBON	12K	5%	1/4W
R211	1-249-431-11	CARBON	15K	5%	1/4W
R212	1-247-887-00	CARBON	220K	5%	1/4W
R213	1-249-441-11	CARBON	100K	5%	1/4W
R214	1-249-441-11	CARBON	100K	5%	1/4W
R221	1-249-435-11	CARBON	33K	5%	1/4W
R222	1-249-417-11	CARBON	1K	5%	1/4W
R229	1-249-421-11	CARBON	2.2K	5%	1/4W
R230	1-249-429-11	CARBON	10K	5%	1/4W
R231	1-249-417-11	CARBON	1K	5%	1/4W
R232	1-249-429-11	CARBON	10K	5%	1/4W
R233	1-249-421-11	CARBON	2.2K	5%	1/4W
R234	1-249-434-11	CARBON	27K	5%	1/4W
R235	1-247-842-11	CARBON	3K	5%	1/4W
R241	1-249-426-11	CARBON	5.6K	5%	1/4W
R242	1-249-421-11	CARBON	2.2K	5%	1/4W
R244	1-249-421-11	CARBON	2.2K	5%	1/4W
R245	1-249-430-11	CARBON	12K	5%	1/4W
R291	1-249-441-11	CARBON	100K	5%	1/4W
R292	1-249-405-11	CARBON	100	5%	1/4W
R301	1-247-743-11	CARBON	220	5%	1/2W
R302	1-247-743-11	CARBON	220	5%	1/2W
R321	1-249-433-11	CARBON	22K	5%	1/4W
R322	1-215-460-00	METAL	43K	1%	1/6W
R323	1-247-876-11	CARBON	75K	5%	1/4W
R324	1-249-405-11	CARBON	100	5%	1/4W
R341	1-249-441-11	CARBON	100K	5%	1/4W
R342	1-247-864-11	CARBON	24K	5%	1/4W
R343	1-247-887-00	CARBON	220K	5%	1/4W
R344	1-247-882-11	CARBON	130K	5%	1/4W
R345	1-247-881-00	CARBON	120K	5%	1/4W
R346	1-249-440-11	CARBON	82K	5%	1/4W
R347	1-249-435-11	CARBON	33K	5%	1/4W
R348	1-249-438-11	CARBON	56K	5%	1/4W
R349	1-249-438-11	CARBON	56K	5%	1/4W
R350	1-247-874-11	CARBON	62K	5%	1/4W

Ref.No.	Part No.	Description			
R351	1-249-436-11	CARBON	39K	5%	1/4W
R352	1-247-874-11	CARBON	62K	5%	1/4W
R353	1-247-870-11	CARBON	43K	5%	1/4W
R354	1-249-439-11	CARBON	68K	5%	1/4W
R355	1-249-440-11	CARBON	82K	5%	1/4W
R356	1-247-876-11	CARBON	75K	5%	1/4W
R357	1-247-876-11	CARBON	75K	5%	1/4W
R358	1-249-437-11	CARBON	47K	5%	1/4W
R359	1-249-434-11	CARBON	27K	5%	1/4W
R360	1-249-438-11	CARBON	56K	5%	1/4W
R361	1-247-881-00	CARBON	120K	5%	1/4W
R362	1-249-440-11	CARBON	82K	5%	1/4W
R363	1-247-882-11	CARBON	130K	5%	1/4W
R364	1-247-872-11	CARBON	51K	5%	1/4W
R365	1-249-437-11	CARBON	47K	5%	1/4W
R366	1-249-436-11	CARBON	39K	5%	1/4W
R367	1-249-438-11	CARBON	56K	5%	1/4W
R368	1-249-439-11	CARBON	68K	5%	1/4W
R369	1-247-876-11	CARBON	75K	5%	1/4W
R370	1-249-437-11	CARBON	47K	5%	1/4W
R371	1-247-876-11	CARBON	75K	5%	1/4W
R372	1-249-438-11	CARBON	56K	5%	1/4W
R373	1-249-441-11	CARBON	100K	5%	1/4W
R374	1-247-890-11	CARBON	300K	5%	1/4W
R375	1-249-436-11	CARBON	39K	5%	1/4W
R376	1-247-881-00	CARBON	120K	5%	1/4W
R377	1-247-881-00	CARBON	120K	5%	1/4W
R378	1-247-881-00	CARBON	120K	5%	1/4W
R379	1-249-437-11	CARBON	47K	5%	1/4W
R380	1-249-437-11	CARBON	47K	5%	1/4W
R381	1-249-433-11	CARBON	22K	5%	1/4W
R391	1-249-414-11	CARBON	560	5%	1/4W
R401	1-249-393-11	CARBON	10	5%	1/4W
R402	1-249-433-11	CARBON	22K	5%	1/4W
R403	1-249-433-11	CARBON	22K	5%	1/4W
R404	1-247-858-11	CARBON	13K	5%	1/4W
R405	1-249-417-11	CARBON	1K	5%	1/4W
R406	1-249-433-11	CARBON	22K	5%	1/4W
R408	1-249-430-11	CARBON	12K	5%	1/4W
R409	1-249-426-11	CARBON	5.6K	5%	1/4W
R410	1-249-411-11	CARBON	330	5%	1/4W
R501	1-249-420-11	CARBON	1.8K	5%	1/4W
R502	1-249-408-11	CARBON	180	5%	1/4W
R503	1-249-425-11	CARBON	4.7K	5%	1/4W
R504	1-249-420-11	CARBON	1.8K	5%	1/4W
R505	1-249-408-11	CARBON	180	5%	1/4W
R506	1-249-425-11	CARBON	4.7K	5%	1/4W
R507	1-249-393-11	(W306)...CARBON	10	5%	1/4W
R509	1-249-421-11	(W306)...CARBON	2.2K	5%	1/4W
R510	1-249-427-11	CARBON	6.8K	5%	1/4W
R511	1-249-435-11	CARBON	33K	5%	1/4W
R512	1-249-440-11	CARBON	82K	5%	1/4W
R513	1-249-429-11	CARBON	10K	5%	1/4W
R514	1-249-441-11	CARBON	100K	5%	1/4W
R515	1-249-415-11	CARBON	680	5%	1/4W
R516	1-249-442-11	(W306)...CARBON	510	5%	1/4W
R517	1-249-421-11	(W306)...CARBON	2.2K	5%	1/4W

Ref.No.	Part No.	Description
R518	1-249-417-11	(W306)...CARBON 1K 5% 1/4W
R520	1-249-425-11	CARBON 4.7K 5% 1/4W
R521	1-249-417-11	(W306)...CARBON 1K 5% 1/4W
R550	1-249-429-11	CARBON 10K 5% 1/4W
R570	1-247-848-11	(W306)...CARBON 5.1K 5% 1/4W
R603	1-249-421-11	(W306)...CARBON 2.2K 5% 1/4W
R604	1-249-421-11	(W306)...CARBON 2.2K 5% 1/4W
R605	1-249-429-11	(W306)...CARBON 10K 5% 1/4W
R606	1-249-421-11	(W306)...CARBON 2.2K 5% 1/4W
R607	1-249-421-11	(W306)...CARBON 2.2K 5% 1/4W
R608	1-249-411-11	(W301:US,E,AUS,W306) ...CARBON 330 5% 1/4W
R701	△.1-212-942-00	(W301)...FUSIBLE 2.2 5% 1/2W F
R702	1-249-417-11	(W306)...CARBON 1K 5% 1/4W
R703	1-249-421-11	(W306)...CARBON 2.2K 5% 1/4W
RV101	1-228-994-00	RES, ADJ, CARBON 10K
RV102	1-228-994-00	RES, ADJ, CARBON 10K
RV141	1-228-994-00	RES, ADJ, CARBON 10K
RV201	1-228-994-00	RES, ADJ, CARBON 10K
RV202	1-228-994-00	RES, ADJ, CARBON 10K
RV241	1-228-994-00	RES, ADJ, CARBON 10K
RV321	1-238-262-11	RES, VAR, CARBON 20K/20K (REC LEVEL)
RV501	1-228-991-00	RES, ADJ, CARBON 2.2K
RV502	1-228-990-00	RES, ADJ, CARBON 1K
RV503	1-228-991-00	RES, ADJ, CARBON 2.2K
RV504	1-228-990-00	RES, ADJ, CARBON 1K
RY401	1-515-614-11	RELAY
S301	1-571-628-11	SWITCH, SLIDE (DECK B TAPE SELECT)
S302	1-571-627-21	SWITCH, SLIDE (DECK A TAPE SELECT)
S303	1-571-510-11	SWITCH, PUSH (1 KEY)(DOLBY NR)
S501	1-571-510-11	SWITCH, PUSH (1 KEY)(DUBBING SPEED)
S601	1-570-393-21	(W306)...SWITCH, PUSH (1 KEY)(POWER)
S902	1-571-736-11	SWITCH, LEAF (A FWD)
S904	1-571-736-11	SWITCH, LEAF (B FWD)
S905	1-571-736-11	SWITCH, LEAF (B REC)
T401	1-433-303-11	TRANSFORMER, BIAS OSCILLATION
T601	△.1-449-256-11	(W306)...TRANSFORMER, POWER

ACCESSORY & PACKING MATERIAL

1-558-649-11	(W306)...CORD (WITH CONNECTOR) 3P
1-559-533-11	(W306)...CORD, CONNECTION
3-703-450-01	(W306)...INSTRUCTION
*3-704-343-01	SHEET (STANDARD), PROTECTION
3-751-753-21	(W306)...MANUAL, INSTRUCTION

Note:

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Note:

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